

## **Historic, archived document**

Do not assume content reflects current scientific knowledge, policies, or practices.



62,27

LIBRARY  
RECEIVED  
★ JUN 12 1935 ★  
U. S. Department of Agriculture

# GLAD GUIDE

---

1935

Glads and How to Grow  
and Enjoy Them

---

---

TENTH ANNUAL CATALOG

---

---

The Foss Heaton Glad Gardens  
Creston, Iowa



# MRS. E. J. HEATON

THE  
CENTURY  
OF  
PROGRESS  
GOLD  
MEDAL



AWARDED  
AT  
CHICAGO  
IN  
AUGUST  
1933

At the Century of Progress, 1933, MRS. E. J. HEATON was awarded the Century of Progress Gold Medal, one of the highest honors ever given a new creation in flowers. MRS. E. J. HEATON won two blue ribbons at each of the last two American Gladiolus Society National shows. It also won other ribbons and cash prizes, a bronze medal, and silver cup, also Awards of Merit from both the A. G. S. and the I. G. S., both of these awards being in the Decorative Class.

MRS. E. J. HEATON first bloomed in 1929 from a cross of Mr. W. H. Phipps on Jane Addams. The color is a deep salmon pink with a cream throat. According to Ridgway it is a Strawberry Pink. No markings of any kind, and it does not fleck or fade. No Glad surpasses it for purity of color. The thing that sets this Glad apart is its unrivaled keeping and lasting qualities. The "cast-iron" Glad. Very prolific, and a strong grower. The bulbs are like Minuet bulbs, meaty and high-crowned. Six to ten open blooms in the field. Early, one of the first of all to bloom.

To be a real commercial variety a Glad must be resistant to severe and trying conditions. The central belt of the United States is where the demand for cut Glads is largely centered, because that is where nine-tenths of us live. A Glad, in order to survive the requirements of the florist and grower there, must have certain characteristics developed to a high degree. It not only must be prolific and easy growing, and have a uniform, lively color, with plenty of size and florescence, but most important of all, it must be able to stand shipping and rough handling, and to open up well after being cut. MRS. E. J. HEATON, as I have grown it, has shown every indication of being able to fulfill all these exacting requirements to the highest degree.

There will be no better time than now to get in on a money making variety, before it has become generally disseminated. Interest in flowers is increasing by leaps and bounds. The Horticultural Building at the Century of Progress featured flowers and nothing else, and yet one out of every ten people on the grounds paid the extra 25c to see them. Seed merchants and florists all report a growing interest in flowers. As soon as times get better, he who is prepared with an adequate stock of the best in flowers is going to make money.

## A SPECIAL PRIZE

A large bulb of MRS. E. J. HEATON will be given as a premium for the Champion Glad Spike of the show at all shows that are sponsored by garden clubs or Gladiolus societies, or organizations of a similar nature, in which there are prizes offered in at least ten different Gladiolus classes. This prize must be announced in a printed prize schedule, a copy of which must be mailed to me, before the winner can receive the award.

PRICES FOR 1935	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	Blts.
Each .....	\$5.00	\$4.00	\$3.00	\$2.00	\$1.50	\$1.00	\$ .40
10 .....	40.00	30.00	20.00	15.00	10.00	8.00	3.00
100 .....	-----	-----	-----	100.00	80.00	60.00	25.00

## VARIETY DESCRIPTIONS

The following descriptions of varieties are arranged by color classes. For alphabetical arrangement see price list. Colors are described in two ways, the one in every day language, and the other according to the Ridgway color charts, which are a series of eleven hundred different named color plates contained in a book called "Color Standards and Nomenclature", by Robert Ridgway, Washington, D. C. The blooming periods are of necessity only approximations. They vary for different localities. The best way is to compare the periods of the different varieties with those for which you have dates for your own particular locality. The numbers in parentheses are the rankings in the 1933 Vote on Favorites by the American Gladiolus Society, the tabulations of which were completed in the summer of 1934.

## STANDARD SIZES FOR GRADING BULBS

No. 1, 1½ inch and over. No. 2, 1¼ inch to 1½ inch. No. 3, 1 inch to 1¼ inch. No. 4, ¾ inch to 1 inch. No. 5, ½ inch to ¾ inch. No. 6, ½ inch and under.

## WHITE

### ALBATROS

(Pfizer). Mid-season. (11th).

Generally regarded as the world's best white, because it is extremely tall, and strong growing, and never shows any pink markings in any kind of weather. Absolutely pure snow white, big petaled large blooms, well adapted to our climate.

### BOB WHITE

(Zimmer). Mid-season. Ridgway: White, Aster Purple feather blotch.

A promising new strong growing blotched pure white.

### CARMEN SYLVA

(Decorah). Late mid-season. (38th in 1929).

A slender-stemmed, tall, lily-like white. Has been a good one for a number of years.

### HENRY C. GOEHL

(Fischer). Early mid-season. Ridgway: White, shaded Rose Pink, blotch Pomegranate Purple.

This white is sometimes shaded a light blush, but never streaked. A good cut flower, with a prominent purple blotch.

### JOERG'S WHITE

(Joerg). Mid-season. (24th in 1932).

The largest of the whites. The creamy white is relieved by a slight throat marking. Not always tall, but a valuable commercial variety.

### MAMMOTH WHITE

(Pfizer). Mid-season. (13th).

The second best white. Many claim it the best, because it has so many open blooms. A good spike, but not quite so tall as Albatros. Very large blooms, absolutely pure white, with a creamy throat, in all kinds of weather.

### MARIE KUNDERD

(Kunderd). Very early. (28th in 1929).

The daintiest little ruffled pure white that we have. Valuable because so extremely early. Always has a nice flower head.



## CREAM

### RUFFLED GOLD

(Goodrich). Mid-season. Ridgway: Straw Yellow, small feather Corinthian Pink.

I cannot understand why this Glad is not more generally grown, because with me it is one of the most exquisitely beautiful Glads in existence. A very light but rich yellow, really a rich cream, with a dainty pink feather. The form of the bloom is unsurpassed.

### QUEEN MARY

(Mair). Mid-season. (33rd).

A temperamental Glad. "When it is good, it is awfully good; but when it is bad, it is horrid". A ruffled creamy flesh pink, on a tall spike, with many open.

### TWILIGHT

(Kunderd). Late. Ridgway: Seashell Pink.

A rich creamy flesh pink, heavily ruffled, on a sturdy spike.

## YELLOW

### GOLDEN CHIMES

(Ellis). Early mid-season. Ridgway: Light Empire Yellow. (46th).

A very large wide-open yellow, on a good spike. A big improvement in the yellow section. It stood the drouth remarkably well.

### GOLDEN DREAM

(Groff). Late. Ridgway: Empire Yellow. (12th).

This Glad for years has held a place in the best ten of nearly every symposium. A rich deep pure uniform yellow, many open, on a very tall heavy spike. Will not send up a spike unless it is good, with a long flower head, and at least six open. The form is delightful, suggesting the rose.

### GOLDEN FRILLS

(Kunderd). Early. Ridgway: Empire Yellow, feather Old Rose. (38th in 1930).

Extremely early, heavily and delightfully ruffled, and probably the deepest yellow in Glads. A Prim, and therefore not large, but a very dainty flower indeed. A pink feather on lower petal.

### TOBERSUN

(Austin). Late mid-season. Ridgway: Pinard Yellow. (40th in 1930).

A pure yellow with many open, making it valuable as a commercial variety. A soft, rather light, yellow, on a nice spike.

## LIGHT PINK

### GIANT NYMPH

(Coleman). Mid-season. Ridgway: Shrimp Pink. (18th).

Has stood high in every symposium for years. The standard light pink on the flower markets. Vigorous plant, fine spike that never crooks. A very dependable light pink.

### MRS. FRANK PENDLETON

(Kunderd). Early mid-season. Ridgway: Hermosa Pink, blotch Ox-blood Red. (50th in 1931).

This Glad has been fine for over a quarter of a Century. Very popular still. The spike is as tall as ever, the flower as large and pretty. A pleasing soft pink with a big red blotch.

### MRS. H. E. BOTHIN

(Diener). Late. Ridgway: Shrimp Pink, blotch Scarlet.

A ruffled pleasing light pink with a big contrasting scarlet blotch. One of the best to bloom out when cut. Heavy spike, only two or three open, but dependable.

**MRS. P. W. SISSON**

(Coleman). Late mid-season. Ridgway: Shrimp Pink. (19th).

Very similar in growth and habits to Giant Nymph, but I regard the color as much more beautiful. A clear, rich, vivid light pink. Much more character to this Glad.

**RITA BECK**

(Fischer). Late mid-season. Ridgway: Shrimp Pink. (49th in 1931).

Similar to Mrs. P. W. Sisson, but much larger. If it were more reliable in sending up the fine spikes it is capable of doing, it would be unbeatable. Some seasons no finer Glad on the farm.

**DARK PINK****CATHERINE COLEMAN**

(Coleman). Late mid-season. Ridgway: Geranium Pink. (46th in 1932).

The Glad with small slender leaves that extend along the spike, making cutting a little difficult. Capable of producing fine blooms. Extremely tall, perfect placement, nice form, and a pleasing geranium pink.

**MRS. LEON DOUGLAS**

(Diener). Late mid-season. Ridgway: Rose Doree. (10th).

A very popular dark pink. It was first in the National Symposium a few years ago. Probably the tallest growing Glad, and very heavy foliage. But the flower head is not always perfect, and it has a slight tendency to crook. Very fine in spite of its faults. A live refreshing pink.

**MR. W. H. PHIPPS**

(Diener). Late. Ridgway: Light Geranium Pink. (5th).

Has won first place in the A. G. S. Symposium more times than any other variety. The Phipps habit of not always doing its best has lost it votes in recent years. At its best there has never been a more gorgeous Glad. It has become the stand-by pink for the florists. A fine true pink of great size, and many open. It can stand high culture. Unsurpassed for keeping qualities.

**WINGED VICTORY**

(Briggs). Mid-season. Ridgway: Geranium Pink, flaked Scarlet.

It has probably the biggest florets in Glads. A rich pink, several open on a fine spike, and nicely placed. The petals are of the winged type, and appear too floppy for a good commercial.

**SALMON PINK****BETTY NUTHALL**

(Salbach). Late. Ridgway: Bittersweet Pink., throat Pinard Yellow. (4th).

The most outstanding introduction of recent years. The world wants a golden pink, or an orange pink, and this one comes near it. Extremely heavy foliage set low on a strong plant, making the spikes easy to cut. Always straight, very tall, fine spike, with many open. A very dependable and beautiful Glad.

**MILDRED LOUISE**

(Wentworth). Mid-season. Ridgway: Light Strawberry Pink. (26th).

A large Prim of a beautiful salmon color. Very strong grower, and tall heavy spike.

**NETHERLAND PRINCE**

(Stevens). Late mid-season. Ridgway: Strawberry Pink.

A very strong growing salmon Glad. Very tall fine spike with many fine large blooms.

**PICARDY**

(Palmer). Early mid-season. Ridgway: Shrimp Pink. (1st).

This Prim is now in first place in the symposium. Under high culture it is capable of producing extremely gorgeous spikes, the equal of any of the large-flowered kinds. But with ordinary culture, it is not above the average. Very prolific, and strong growing. A beautiful salmon pink.



**SHEILA**

(Coleman). Early. Ridgway: Strawberry Pink.

This Glad will send up a tall spike and a good bloom under all sorts of conditions of soil and climate, a thing that cannot be said of all Glads. From an early planting of assorted sizes and bulblets one may have a constant supply of blooms from July until frost. Not many open, but a pure salmon pink, large and showy.

**ORANGE****LA PALOMA**

(Dusinberre). Early mid-season. Ridgway: Capucine Yellow to Mikado Orange. (40th).

Almost a true orange. A tall Prim of good growing habits, throwing up many spikes.

**ORANGE WONDER**

(Kemp). Late. Ridgway: Deep Grenadine. (48th in 1932).

This orange has no suggestion of Prim blood. Extremely heavy foliage and strong plant. The spike is not so stretchy as it might be, but the large blooms open up fine when cut.

**SCARLET****AFLAME**

(Hornberger). Mid-season. Ridgway: Rose Doree, shaded Scarlet. (14th).

Though a Prim, this Glad is a real contribution to the Glad world. Immense spikes and blooms. The color effect is a bright scarlet, or flaming red.

**DR. F. E. BENNETT**

(Diener). Early mid-season. Ridgway: Scarlet. (9th).

The test of a really great Glad is its ability to hold its place in popular esteem through the years. Dr. Bennett has about the fewest faults of any Glad I know of, and is retaining its many virtues unimpaired as time passes. This Glad and a few others, like Betty Nuthall, seem specially designed for cutting, with their bunched foliage, tall straight regular spikes, and many fine buds showing color. A vivid scarlet. It is what we mean when we say dependable.

**PFITZER'S TRIUMPH**

(Pfitzer). Late mid-season. Ridgway: Scarlet, blotch deeper. (8th).

Sensational when grown right. Given cool weather and lots of moisture, or planted late, it is unbeatable. The hot sun crooks and burns it, and drouth makes the spikes short. Big round wide-open blooms of a solid scarlet color. Imagine a Bennett with a Pfitzer's Triumph bloom.

**PRIDE OF PORTLAND**

(Ellis). Late mid-season. Ridgway: Light Scarlet Red, white blotch.

This Glad is finding a high place as it becomes adapted to our climate. A vivid scarlet pink, with a pure white blotch, on a very tall straight spike. The flower is very large and exceedingly bright.

**RED****COMMANDER KOEHL**

(Pfitzer). Late mid-season. Ridgway: Between Carmine and Ox-blood Red. (6th).

The world's best real red. Grows to immense size, and wins wherever shown. A deep glistening glowing red, self color. Extremely tall, many open.

**RED GLORY**

(Piper). Mid-season. Ridgway: Carmine.

A sport of Purple Glory. It has all the good qualities of the famous Purple Glory, but the color is a pure glistening red, and the plant is stronger and more easily grown.

**RED PHIPPS**

(Briggs). Mid-season. Ridgway: Spectrum Red. (49th).

Another Glad that will go high in the symposiums. A red that is red. Free flowering like its parent, Mr. W. H. Phipps, maybe not so large, and it has the great keeping qualities of Phipps. Will make a fine florist's Glad.

**SULTAN**

(Crow). Mid-season. Ridgway: Spectrum Red. (44th).

A rich velvety, heavily ruffled red, with a purplish overcast, especially on the edges of the petals. Fine strong spike, and giant blooms. One of the best of the newer Glads.

**DARK RED****ARABIA**

(Hinkle). Early mid-season. Ridgway: Bordeaux, shaded black.

The black Glad. Better than Marocco in one respect in that the spikes are always straight. Probably also blacker. Easily grown, and does not burn in the hot sun. A heavy spike. Purplish black red.

**MAROCCO**

(Pfitzer). Early mid-season. Ridgway: Deep Burnt Lake, flaked black (43rd in 1931).

This glistening black red has twice as many open as Arabia, and they are of the more wide-open form, but the spikes are inclined to crook slightly. Tall slender spikes.

**MOORISH KING**

(Pfitzer). Late. Ridgway: Very deep Ox-blood Red. (36th).

Very much larger and finer than Arabia or Marocco, but not quite so black. The petals are somewhat narrow and pointed, and the flower very large and wide-open. Color is scarlet-black rather than purple-black. It will probably soon disappear from the earth, as it is a slow propagator.

**PURPLE GLORY**

(Kunderd). Mid-season. Ridgway: Amaranth Purple. (31st).

A sensational Glad for years. Its thick leathery petals, glossy texture, and fine ruffling are unsurpassed. A purplish dark red. Large bulblets that are very hard to sprout.

**ROSE RED****CRINKLES**

(Kunderd). Mid-season. Ridgway: Tyrian Rose.

A unique flower that should be more widely grown. Not large, but the many extremely ruffled blooms suggest beautiful carnations along the sturdy spike. A fine spike that is easily cut, with many vivid buds. Exceedingly deep vivid rose color.

**DREAM OF BEAUTY**

(Zimmer). Mid-season. Ridgway: Tyrian Rose, deeper in throat.

Looks like this one will head the rose class in time. A very strong growing vivid deep rose Glad.

**DR. NELSON SHOOK**

(Kunderd). Late. Ridgway: Deep Rose Red. (48th).

A very strong heavy spike, with heavy foliage. A vivid deep rose red, many open. Very popular.

**PRIDE OF WANAKAH**

(Criswell). Mid-season. Ridgway: Tyrian Rose, blotch Pomegranate Purple. (45th in 1932).

Extremely tall spike, slender and graceful, never crooking. A bright, gleaming, silky rose red, of large size. A fine commercial.

**RED LORY**

(Errey). Mid-season. Ridgway: Outer half of petals Spectrum Red, inner half Rhodamine Purple. (16th).

The best Glad out of Australia since Marmora came in 1925. A very tall sturdy spike, with almost the entire spike open at once. The blooms resemble Marmora in form. The color seems to be a vivid purple painted over a bright red. A very unique Glad, and, I think, beautiful.

**ROSE PINK****KEN**

(Goodrich). Late mid-season. Ridgway: Deep Rose Pink to true Rose Color.

This Glad is well liked by those who have seen it. A true rose color, though flaked a deeper color. Very tall spike and large bloom.

**SALBACH'S ORCHID**

(Salbach). Early mid-season. Ridgway: Rose Pink. (35th).

The finest of the rose pinks, and one of the finest of all Glads. A splendid flower, many open on a superb spike, suggesting Minuet in many ways. A real rose pink in color.

**SWEET ROSE**

(Kunderd). Mid-season. Ridgway: Eosine Pink, blotch Pomegranate Purple.

Fine spike with well placed wide-open heavy-textured blooms. A pretty begonia pink.

**LAVENDER****BERTY SNOW**

(Mair). Mid-season. Ridgway: Pale Rosolane Purple, with light mid-ribs. (29th).

One of the good ones. This fine Glad from Scotland used to flake badly, but has been coming clear. Almost as good as Minuet. Stems always straight and tall, the many blooms large and well placed. A pinkish lavender, mellow and clear, with white throat.

**CAPT. BOYNTON**

(Boynton). Early. Ridgway: Mallow Pink, feather Aster Purple. (43rd in 1930).

Very popular. Color is a soft lavender pink with a contrasting dark feather. Extremely tall spikes. Only a few open, but large and full.

**DR. MOODY**

(Kinyon). Mid-season. Ridgway: Phlox Pink. (27th).

Many open, but somewhat crowded on the spike, and not quite so large as Minuet. A blue-toned lavender pink. Strong grower, and a fine Glad.

**JANE ADDAMS**

(Decorah). Late mid-season. Ridgway: Rosolane Pink, blotch Naphthalene Yellow. (28th in 1932).

It takes high culture with plenty of moisture to get the spikes tall enough. But that big Amaryllis-like wide-open, flat, perfectly shaped flower is not matched anywhere else. Only two or three open, but their size and clear beauty make up for it. It comes clear now regularly. The feature of this Glad is its incomparable ability to bloom out when cut and taken indoors. Its real beauty appears after a day or so indoors. The bulbs divide, sending up spikes all through the season.

**MINUET**

(Coleman). Late mid-season. Ridgway: Mallow Pink. (2nd).

The standard by which all other Glads are measured. This Glad has about everything a Glad should have, except possibly there are not quite enough open at one time. No sign of a lessening of its qualities as the years pass. A bluish lavender pink, known as mallow pink.

**MRS. F. C. PETERS**

(Fischer). Late. Ridgway: Pale Rosolane Purple, blotch Amaranth Purple. (33rd in 1932).

Another fine Glad through the years. It never varies, sending up its fine blooms in all kinds of weather and in all seasons. Very dependable. Tall graceful spikes, with several fine flowers, perfectly placed. Color is a beautiful rose-lilac with dark blotch.

**ROYAL LAVENDER**

(Schleider). Late mid-season. Ridgway: Mallow Purple.

The largest of the lavenders except Jane Addams. The spike is not so tall as the others. The color is a deep lavender, bright and clear.

**PURPLE****CHAS. DICKENS**

(Pfitzer). Late mid-season. Ridgway: Aster Purple, blotch Amaranth Purple. (30th).

The world's finest purple. Exceedingly tall graceful spikes. Vivid glistening deep purple. Fine in every way.

**PAUL PFITZER**

(Pfitzer). Early mid-season. Ridgway: Amaranth Purple. (50th).

More of a royal purple than Chas. Dickens, but not so prolific and easy to grow. A bright gorgeous Glad.

**PURPLE QUEEN**

(Kunderd). Early mid-season. Ridgway: Aster Purple.

Differs from the above purples in having more open, and the spike is heavier, and not so tall. Fine as a cut flower.

**RAMESSES**

(Stevens). Mid-season. Ridgway: Rosolane Purple.

A giant in flower, on a tall slender spike. A ruffled loosely built monster, like a butterfly, of a deep reddish purple color.

**BLUE****AIDA**

(Pfitzer). Early. Ridgway: Manganese Violet, blotch Aster Purple. (34th).

The earliest and deepest of the blues, except Pelagrina. Fine growing habits. Very dark violet.

**AVE MARIA**

(Pfitzer). Early mid-season. Ridgway: Light Lobelia Violet, feather Rosolane Purple. (20th).

One of the best of the light blues. Easy growing and prolific. The blotch does not detract.

**GERALDINE FARRAR**

(Diener). Late mid-season. Ridgway: Lavender, feather Livid Purple (44th in 1931).

The only true lavender color in Glads. Its performance here in Iowa leaves nothing to be desired, except that it is not very prolific. Fine spike, fine bloom, and fine flower head.

**GERTRUDE PFITZER**

(Pfitzer). Mid-season. Ridgway: Pale Lobelia Violet, feather Hortense Violet.

A light blue that never fades. Tall graceful spikes, large blooms of fine form. Very dependable and easily grown.

**MRS. VAN KONYNENBURG**

(Pfitzer). Mid-season. Ridgway: Deep Lavender, feather Rosolane Purple. (29th in 1932).

Usually regarded as the nearest to blue in Glads. The spikes are very tall, and should be staked. Blooms sometimes irregularly placed, but are very large and wide-open.

**PELEGRINA**

(Pfitzer). Early mid-season. Ridgway: Bradley's Violet. (23rd).

By far the best of the dark blues. Many open at one time, with all buds showing color. A fine straight spike, with fine placement. A very dark blue, almost black in the bud. Easy grower and rapid multiplier.

**VEILCHENBLAU**

(Pfitzer). Mid-season. Ridgway: Deep Hyssop Violet, feather Amaranth Purple. (32nd).

This rich blue has been among the best of all Glads for years. The dark blue buds and fine Iris-blue open flowers are beautiful. Strong grower, but the bulblets are hard to sprout.

**SMOKY****EMILE AUBRUN**

(Lemoine). Late. Ridgway: Begonia Rose, buds Spectrum Red, blotch Pomegranate Purple. (15th).

One of the best and most popular of all Glads. Gorgeous when well grown. Many wide-open blooms of the winged type. The color is a deep begonia rose, or rosy red, with a sort of slaty overcast, and a red blotch.

**JOHN T. PIRIE**

(Kunderd). Mid-season. Ridgway: Neutral Red, blotch Carmine, bordered Barium Yellow.

A smoky red that is very popular. Extremely tall. A sort of mahogany brown, lighted up by a diamond-shaped red blotch bordered cream.

**MARMORA**

(Errey). Mid-season. Ridgway: Light Vinaceous Lilac, blotch deep Purplish Vinaceous in throat to Rocellin Purple on tip. (3rd).

A very popular Glad. Folks like lots of big blooms open at one time. Great wide-open flowers of the winged type. A grayish lavender with a petunia blotch. A sure winner in the smoky class.

**MOTHER MACHREE**

(Stevens). Mid-season. Ridgway: Light Grayish Vinaceous, flaked Salmon Buff. (7th).

This one crowds Marmora for prizes in the smoky class. The color is peculiar, a sort of mouse color streaked with apple jelly. Some describe it as a sort of pinkish gray flaked with salmon buff. Very strong grower and fine spike.

**ROSE ASH**

(Diener). Late. Ridgway: Rocellin Purple, blotch Straw Yellow. (45th in 1930).

The original smoky that made smokies popular. Has always been in big demand. Color called ashes of roses. Very sturdy spike, with blooms irregularly placed.

---

## 1935 PRICE LIST

These prices cancel all others mailed to you. All prices PREPAID anywhere. Three at dozen rate, 25 at 100 rate, and no item less than 5 cents. If cash accompanies an order of \$10.00, or over, you may deduct 10 percent, or include additional bulbs to that amount. For later delivery one-fourth cash will hold your order. Balance before shipment, or C. O. D. Large sizes, 1 1/4 inches and over. Medium sizes, 3/4 inch to 1 1/4 inch. Small sizes, under 3/4 inch.

Dependable bulbs of dependable varieties are offered herewith. My bulbs are guaranteed free of thrips and disease, and must please you or no sale. Every precaution is taken to keep my stock true to name, and should mistakes occur I shall be glad to make them right. Let me know if you are not satisfied in every particular.

Let me hear from you. I am glad to know about your difficulties with Glads, as well as your successes. Maybe we can help each other. Where there cannot be personal contacts, these letters are the next best thing. I am trying to build my business on the solid foundation of fair dealing and helpfulness, and I shall do everything I can to merit your confidence.

Sincerely yours,  
FOSS HEATON

Member American Gladiolus Society Board of Governors, also member Executive Committee of the same. Member I. G. S., N. E. G. S., Canadian G. S., Illinois G. S.



Variety	Per	Large	Medium	Small	Per	Bulblets
<b>Aflame</b>	12	\$ .50	\$ .25	\$ .15	100	\$ .20
(scarlet) -----	100	2.40	1.30	.70		
<b>Aida (blue)</b> -----	12	---	---	.30		
<b>Albatros</b> -----	1	.12	.07	---	100	.40
(white) -----	12	1.20	.60	---		
<b>Arabia</b> -----	12	.40	.20	.15	100	.20
(dark red) -----	100	---	1.10	.70		
<b>Ave Maria (blue)</b> -----	12	.60	.30	---		
<b>Berty Snow</b> -----	12	.50	.25	.15	100	.20
(lavender) -----	100	---	1.20	.70		
<b>Betty Nuthall</b> -----	12	.40	.20	.15	100	.20
(salmon pink) -----	100	2.10	1.10	.70		
<b>Bob White (white)</b> -----	1	1.00	---	---		
<b>Capt. Boynton</b> -----	12	.40	.20	.15	100	.20
(lavender) -----	100	2.10	1.10	.70		
<b>Carmen Sylva</b> -----	12	.40	.20	.15	100	.20
(white) -----	100	---	1.10	.70		
<b>Catherine Coleman</b> -----	12	.40	.20	.15	100	.20
(dark pink) -----	100	---	1.10	.70		
<b>Chas. Dickens</b> -----	12	.50	.30	.20	100	.20
(purple) -----	100	3.00	1.50	1.00		
<b>Commander Koehl</b> -----	1	.12	.07	---		
(red) -----	12	1.20	.60	---		
<b>Crinkles</b> -----	12	.40	.20	.15	100	.20
(rose) -----	100	2.10	1.10	.70		
<b>Dream of Beauty (rose)</b> -----	1	.50	---	---		
<b>Dr. F. E. Bennett</b> -----	12	.40	.20	.15	100	.20
(scarlet) -----	100	2.10	1.10	.70		
<b>Dr. Moody</b> -----	12	.40	.20	.15	100	.20
(lavender) -----	100	---	1.10	.70		
<b>Dr. Nelson Shook</b> -----	12	.40	.20	.15	100	.20
(rose) -----	100	2.20	1.20	.70		
<b>Emile Aubrun</b> -----	12	.40	.20	.15	100	.20
(smoky) -----	100	---	1.10	.70		
<b>Geraldine Farrar</b> -----	12	.60	.30	.15		
(blue) -----	100	---	1.80	1.00		
<b>Gertrude Pfitzer</b> -----	1	.12	.07	.05	100	.30
(blue) -----	12	1.20	.60	.40		
<b>Giant Nymph</b> -----	12	.40	.20	.15	100	.20
(light pink) -----	100	2.20	1.20	.70		
<b>Golden Chimes (yellow)</b> -----	1	.70	.40			
<b>Golden Dream</b> -----	12	.40	.20	.15	100	.20
(yellow) -----	100	2.10	1.10	.70		
<b>Golden Frills</b> -----	12	.40	.20	.15	100	.20
(yellow) -----	100	2.10	1.10	.70		
<b>Henry C. Goehl</b> -----	12	.40	.20	.15	100	.20
(white) -----	100	2.10	1.10	.70		
<b>Jane Addams</b> -----	12	.50	.25	.15	100	.20
(lavender) -----	100	2.40	1.30	.70		
<b>Joerg's White (white)</b> -----	12	---	.25	.15	100	.20
<b>John T. Pirie</b> -----	12	.40	.20	.15	100	.20
(smoky) -----	100	---	1.10	.70		
<b>Ken</b> -----	12	.60	.30	.20	100	.40
(rose pink) -----	100	3.00	1.50	1.00		
<b>La Paloma</b> -----	12	.40	.20	.15	100	.20
(orange) -----	100	2.10	1.10	.70		



Variety	Per	Large	Medium	Small	Per	Bulblets
<b>Mammoth White</b> .....	1	.10	.08	.05	100	.50
(white) .....	12	.100	.60	.35		
<b>Marie Kunderd</b> .....	12	.40	.20	.15		
(white) .....	100	---	1.10	.70		
<b>Marmora</b> .....	12	.50	.25	.15	100	.20
(smoky) .....	100	2.40	1.20	.70		
<b>Marocco</b> .....	12	.50	.25	.15	100	.20
(dark red) .....	100	2.20	1.20	.70		
<b>Mildred Louise</b> (salmon pink) .....	1	.35	---	---		
<b>Minuet</b> .....	12	.60	.30	.20	100	.20
(lavender) .....	100	---	---	1.00		
<b>Moorish King</b> (dark red) .....	1	.40	---	---		
<b>Mother Machree</b> .....	1	.10	.08	.05	100	.40
(smoky) .....	12	1.00	.60	.30		
<b>Mrs. F. C. Peters</b> .....	12	.40	.20	.15	100	.20
(lavender) .....	100	2.10	1.10	.70		
<b>Mrs. Frank Pendleton</b> .....	12	.40	.20	.15	100	.20
(light pink) .....	100	---	1.10	.70		
<b>Mrs. H. E. Bothin</b> .....	12	.40	.20	.15	100	.20
(light pink) .....	100	2.10	1.10	.70		
<b>Mrs. Leon Douglas</b> .....	12	.40	.20	.15	100	.20
(dark pink) .....	100	2.10	1.10	.70		
<b>Mrs. P. W. Sisson</b> .....	12	.60	.30	.15	100	.20
(light pink) .....	100	---	1.50	.70		
<b>Mrs. Van Konynenburg</b> (blue) .....	12	---	.25	.15	100	.20
<b>Mr. W. H. Phipps</b> .....	12	.40	.20	.15	100	.20
(dark pink) .....	100	2.10	1.10	.70		
<b>Netherland Prince</b> (salmon pink) ..	1	.25	---	---		
<b>Orange Wonder</b> .....	12	.40	.20	.15	100	.20
(orange) .....	100	2.10	1.10	.70		
<b>Paul Pfitzer</b> .....	12	.60	.30	---	100	.40
(purple) .....	100	---	1.80	---		
<b>Pelegrina</b> (blue) .....	1	.30	---	---		
<b>Pfitzer's Triumph</b> .....	12	---	.30	.20		
(scarlet) .....	100	---	1.50	1.00		
<b>Picardy</b> .....	1	.15	.12	.06	100	.40
(salmon pink) .....	12	---	1.20	.60		
<b>Pride of Portland</b> .....	1	.10	.08	---		
(scarlet) .....	12	1.00	.60	---		
<b>Pride of Wanakah</b> .....	12	.40	.20	.15	100	.20
(rose) .....	100	---	1.10	.70		
<b>Purple Glory</b> .....	12	.60	.30	---	100	.30
(dark red) .....	100	2.50	1.50	---		
<b>Purple Queen</b> .....	12	.50	.25	.15	100	.20
(purple) .....	100	---	1.50	.70		
<b>Queen Mary</b> (cream) .....	1	.20	---	---		
<b>Ramesses</b> (purple) .....	1	.25	---	---		
<b>Red Glory</b> (red) .....	1	.10	.05	---		
<b>Red Lory</b> (rose) .....	1	.30	---	---		
<b>Red Phipps</b> (red) .....	1	---	---	.10		
<b>Rita Beck</b> (light pink) .....	12	.75	.40	---	100	.30
<b>Rose Ash</b> (smoky) .....	12	---	.20	.15	100	.20
<b>Royal Lavender</b> .....	12	.50	.25	.15	100	.20
(lavender) .....	100	---	1.20	.70		
<b>Ruffled Gold</b> .....	12	.50	.25	.15	100	.20
(yellow) .....	100	---	1.20	.70		

Variety	Per	Large	Medium	Small	Per	Bulblets
Salbach's Orchid (rose pink)	1	.20				
Sheila	12	.40	.20	.15	100	.20
(salmon pink)	100	2.10	1.10	.70		
Sweet Rose	12	.40	.20	.15	100	.20
(rose pink)	100	2.10	1.10	.70		
Sultan (red)	1	.50				
Tobersun (yellow)	12	.60	.30	.20	100	.30
Twilight	12	.40	.20	.15	100	.20
(cream)	100		1.10	.70		
Veilchenblau (blue)	12	.60	.30		100	.25
Winged Victory	1	.10	.07		100	.30
(dark pink)	12	1.00	.60	.35		

SUPERIOR MIXTURE

When I discard a variety, it is not thrown into a mixture. Neither do I grow mixtures. This SUPERIOR MIXTURE will be made up of named varieties, which are listed elsewhere in this catalog, and will be mixed at the time I ship the bulbs to you. Each of the different color classes will contribute a share of bulbs. If you will state some of your favorite colors, I will make your special mixture stronger on those particular colors. Large sizes, 1 1/4 inch and over, \$2.00 per 100 prepaid. Medium sizes, 3/4 inch to 1 1/4 inch, \$1.00 per 100 prepaid. All named varieties but not labeled.

WHOLESALE PRICES. NOT PREPAID

F. O. B. Creston, Iowa. Priced per 1000, 250 at 1000 rate.

Variety	No. 3	No. 4	Variety	No. 3	No. 4
Betty Nuthall	\$10.00	\$8.00	La Paloma	\$10.00	\$8.00
Crinkles	10.00	8.00	Marmora	10.00	8.00
Dr. F. E. Bennett	10.00	8.00	Mrs. F. C. Peters	9.00	7.00
Giant Nymph	9.00	7.00	Mrs. H. E. Bothin	9.00	7.00
Golden Dream	9.00	7.00	Mrs. Leon Douglas	9.00	7.00
Jane Addams	10.00	8.00	Mr. W. H. Phipps	10.00	8.00
John T. Pirie	9.00	7.00	Sheila	9.00	7.00

A. G. S. MEMBERSHIP

Join the American Gladiolus Society. This society issues a monthly magazine, devoted exclusively to Glads. Send your dues of \$2.00 to the Secretary, Mr. Roscoe Huff, Spohn Bldg., Goshen, Ind.

SWEET AND BRIEF

Spiritual exhilaration can be maintained for a brief time only, as Edgar Allen Poe pointed out with reference to poetry. Therefore, poems must be short and flowers should die. However, for those who have a genuine appreciation of the beautiful such things do have a very real existence in the memory. And when again they make a brief appearance in reality, their enjoyment is all the more keen, without any danger of a flagging of interest.

The colors of most flowers, and notably the Glads, have the purity of the rainbow hues without admixtures of neutral gray. That is the reason they seem so bright, and also the reason they attract us humans to them, as well as the insects. Such colors are comparatively rare in Nature. If they were anywhere near as common in Nature as the dull colors, we would be led to distraction. Their enjoyment is keen in proportion as they are rare. Such rare things as the flowers in Nature cannot be successfully imitated. Artificial flowers are just what they are,—artificial. The glowing warmth, the sparkle, and the informality of the living flower are what constitutes its rareness.

WHY NOT ENJOY THEM NOW?

Life is short, why not make it sweet? If we love flowers, it seems more sensible to enjoy them while we are above ground than to have them piled on us when we are

laid below. Even if we do have to count our pennies, maybe we should count out a few less for certain things in order to have a few more for flowers in our garden. A disproportionate share of our spending is for the purely physical well-being of ourselves, too little of it is for the higher things. The enjoyment of the beauty in flowers takes high rank among those things that further the well-being of our souls.

## GLADS NOT LOSING CASTE

With Glads so easy to raise, and so inexpensive, and so sure to bloom, it would seem that they would become common. But such is not the case. Glads are now in the high society of flowers. They are generally considered as among the aristocrats of the floral kingdom, along with the Rose and the Lily that have always been there. Everywhere Glads are in style. In the high priced advertisements in the standard national magazines Glads are now quite frequently used in the decorative features of the colored pictures and illustrations. Glads are in heavy demand on the flower markets. In the beauty of their pure colors lies the foundation of their popular favor. The great variety of colors offers a limitless field of choice for the individual fancy, while the interest in Glads is challenged by the constant changes and improvements in colors and types, with no chance of their losing caste with the snobbish on account of their cheapness and commonness.

## GARDENING FOR PLEASURE

At the 1934 convention of the American Seed Trade Association it was reported by the National Garden Bureau that the volume of flower seed business is increasing. In 1925, when general conditions were good, out of a six million dollar business in seeds by a group of wholesalers only twelve percent were flower seeds, leaving eighty-eight percent for vegetable seeds. In 1933 this proportion had increased to twenty-six percent, in spite of the depression. The exact opposite would naturally be expected, because of the need for supplementing income by producing food in the home garden. This trend towards the recreational features of the garden, and away from gardening as a necessity, has been noticeable for the past ten years, and is increasing in momentum. The thousands of garden clubs that have been organized in recent years are another proof of this fact.

It is instinctive in man to enjoy getting out away from things and next to Nature. Men did this for thousands of years before the advent of the office and shop. Out in the garden for an hour or two a day affords relief from the artificiality of things. Inexpensive, healthful, convenient, interesting, what other recreational activity can surpass home gardening.

## THE LAWS OF BEAUTY

In what follows it is shown in what ways the principles of beauty apply to the form of a Glad. Beauty of form is that which results in the easy and organized movement of the eye up the spike.

For every flower there is a basic form. Outlines of petals, contour of blooms, arrangement, and so forth, mean one thing for the Rose, for example, but an entirely different thing for the Lily. The term "Lily" has always called to mind one particular type of flower, and no other. The basic type for the Glad, around which all improvements must be centered, is essentially the spear-head, with the individual florets facing the front. The florets themselves have an openness without flatness, giving an impression of depth of character. The cluster is high rather than broad, suggesting stateliness and dignity. For the entire spike ensemble there is an accumulating impression of sheer color loveliness, which is presented by no other flower in just this way.

## RHYTHM

When we look at an object, the eye tends to travel along the lines of the object. If this movement is smooth and easy, and not restless and distracting, the object is said to have rhythm. Rhythm is seen in a Glad spike in the alternate arrangement of the double row of florets up the spike, each one like the next one in a pleasing repetition, in a restful flow of line up the spike.

## HARMONY

Harmony is seen if we observe that there are sets of lines of similar directions and inclinations. For example, for each of the left-hand florets there is a left petal edge of the upper central petal, also a right petal edge of the same set of petals, and so on for the petal edges in various sets for all the florets. For each edge we may point out there is a set of lines of similar direction and inclination. Even the lines of the pistils correspond in sets, as well as the feather blotches. Even the lines of the mid-ribs of the petals indicate a harmonious design in the spike, giving an impression of unity in the entire flower. There is a family resemblance among the florets. The leading lines follow the general shape of the cluster, with a maximum of transition lines and a minimum of contradicting lines.

## BALANCE

For a spike to have balance there must be an equal amount of attraction to the eye on each side of the stem axis all the way up the stem.

## PROPORTION

Proportion has to do with that which holds the interest. There must be a pleasing consistent relationship of the various parts to the whole spike and to each other, and this includes each petal and each floret, as well as the cluster and stem. Proper proportions would require a cluster about twice as high as broad, with the thickness of stem consistent with the size of the blooms.

## EMPHASIS

Emphasis is the art principle by which the eye is inevitably carried to the most important thing in any arrangement of lines and parts. It so happens, and it is a delightful coincidence, that the thing to be emphasized in a Glad spike is exactly the thing for which the Glad is to be used. And that is the color. The easy flow of line up the spike, the rhythmic movement and beauty of line and shape, the suggestion of broadness and openness and depth of character, the stateliness and dignity, all these things point to the one central idea, which is the presentation of the color to the best advantage. There is unity of purpose in the Glad spike, and when the laws of beauty are obeyed color reaches its greatest fruition.

## VIOLATIONS OF THE LAWS OF BEAUTY

If the florets are too far apart vertically, they appear to be single-file, as in certain Primis. This is a violation of the principle of **proportion**. If the florets are too close together, they appear crowded, and their cumulative effect is more or less destroyed, and the principle of **emphasis** is violated, as well as **proportion**, because each floret is not allowed to present the full effect of its beauty. Also, on account of the jumble of lines, **harmony** and **rhythm** are lessened. If a floret is out of position, **balance** is upset.

For the proper proportions there should be not less than five open florets, and not more than seven or eight. Outside these limits **proportion** is violated. **Harmony** and **rhythm** require a fairly smooth and regular outline for the cluster, so as not to interfere with the easy movement of the eye up the spike. Open spaces between the florets also interfere with **harmony** and **rhythm**.

As for the shape of the floret itself, we must remember that there should be no departures from the basic type. This basic type for the floret conforms to the general outline of the spike. When they do conform completely, the principles of **harmony**, **rhythm** and **emphasis** are most fully complied with. Triangle-shaped and winged florets, as well as hollyhock and lily-shaped florets, are inharmonious and displeasing, as well as off type. Besides, there is no particular point in trying to imitate other flowers.

There have been quite a few fads in connection with the style of the floret, such as the ruffled type, the lacinated type, the Primulinus type, the needle-point type, and so forth. A slight touch of any of these lends interest to the flower. But any more than a slight touch tends to call attention to such things for their own sake and away from the flower ensemble itself. To that extent they violate the principle of unity, or **emphasis**. The hood of the Prim, and lacinations and ruffles, also tend to disrupt the smooth and easy flowing lines, and thus violate the principle of **harmony**.



## COLOR

The climax of the whole spike ensemble is color. The six primary colors grade into one another in order, forming the various hues, which are distinguished by their degrees of warmth or coolness. Each of these hues has different values, according to the varying amounts of white and black each contains, forming the tints and shades. And all of these tints and shades for each of the hues have different degrees of dullness, formed by varying admixtures of neutral gray.

By far the most common colors in Nature are the dull colors. The pure colors, which are the colors of the rainbow and their intermediate hues, are very scarce in Nature. They are found chiefly in flowers. Their purity accounts for their brightness. They are exceedingly attractive. It is this power to attract that draws insects as well as humans irresistibly to them. But we must not confuse color purity with true beauty. If our tastes have been properly developed, the latter attracts us just as strongly as does the former.

## COLOR AND BEAUTY

The principle of unity, or **emphasis**, applies to the color of a floret. There must be just the one hue, and it should give the impression of solidness. If there is a throat marking, it must be rather inconspicuous, not attracting attention, on the principle that slight variations may be interesting, but more than that may be disturbing. The same may be said of other markings, such as flecks, mid-ribs, and so forth.

This principle of unity of color in the Glad also conforms to the uses of the Glad. The florist as an artist must do his own arranging, and he chooses his colors. If there is more than the one color in a Glad, unless the second color is inconspicuous, the usefulness of that Glad is destroyed. The same rule holds good more or less surely with all the rest of us who use Glads. An apparent exception is the Glad with a contrasting blotch, but here the idea is the contrast, which should be clear cut.

So we see that the laws of beauty apply to the entire spike ensemble in all of its relationships, even including colors. Even so, with all of these beauty principles complied with, if the color is a dull, or broken, color, such as is so common in Nature, we are not interested. If a Glad spike shall have all of these things, and not have a pure color, it avails nothing. This fact places color in a different category entirely.

## THE LAWS OF BEAUTY AND THE RATING SCALES

I do not advocate abolishing the present rating scales. I am merely urging that they be overhauled with the principles of beauty as our guide. These principles have been only vaguely comprehended by those who have written these scales. For example, size is entirely indifferent so far as these laws of beauty are concerned. As for the number open, in the way of emphasis, or impressiveness, it is simply a case of a good thing being overdone, with the result that the principle of **proportion** has been violated. Color cannot be rated. Perhaps the scale should say "purity of color".

## NOT TOO RIGID

In what was said above about the application of the laws of beauty in the make-up of a Glad spike, it was not inferred that the spike should adhere to a rigid pattern. Balance, for example, does not mean altogether a perfectly straight spike. Informal balance is far more pleasing and delightful, as is seen in those spikes we call graceful. No two flowers are ever exactly alike. This being so, such informalities as a slight twist in a stem, or a bloom slightly misplaced or off the regular form, or with a fleck or two on its face, or with a slightly ruffled edge, far from being subjects for penalties, rather lend interest to the flower, and should indulgently be regarded as delightfully becoming. A slight throat marking, or a tendency toward the needle-point shape, or a faint suggestion of the hood, unless they are too evident or too pronounced, so as to call attention to themselves, do not violate the laws of unity, or emphasis, and hence are perfectly allowable in a Glad. Many of these fads and fancies of the past have added a touch of interest to the present-day Glad.

## WHY ARE GLADS POPULAR?

Their wide range of colors is what keeps the flower buying public from getting tired of them. Their constant improvement and the constant introduction of new

colors hold up the public interest in them. Their bright and varied colors are one of the biggest reasons for their increasing popularity.

Another big reason is their great adaptability to so many uses. The straight strong stem of convenient length holds the flower right where you want it in any conceivable position your fancy may dictate, lasting for days in fine condition in all sorts of weather.

The third big reason is their cheapness. Easy to raise and low in price, it is the poor man's flower. Perfect in their regal beauty, the rich man does not disdain them. In spite of their plentifulness, their color beauty and charm will never allow them to become common.

### IMPRESSIVENESS

Beauty of form in a Glad spike may be judged by its effect upon the eye. The easy movement of line in a harmonious arrangement is said to be pleasing. Proper proportions are interesting, rather than dull and disagreeable. Rhythmic movement of line is restful to the eye. Where there is proper balance there is dignity. When there is unity of purpose in the presentation of the color beauty to the best advantage as the culmination of the entire spike ensemble, the effect is impressive. The first four of these five attributes in a Glad spike lead to the most important of them all, Is the spike impressive? This would make an easy and safe rule for judging Glads in a show.

### THE GLAD IS A CUT FLOWER

For landscaping Glads are too scraggly. In a bed of Glads we have tall spikes, short spikes, leaning spikes, crooked spikes, open blooms, wilted blooms, seed pods, bud ribbons, and blooms facing every which way. Glads do not like to be in among other plants, or next to buildings and bushes. They do not like to be crowded by anything. Plant your Glads out in the open away from things, or where vegetables would do well, and gather your crop of spikes as you would gather any other crop to be used.

Glads are particularly suited for cutting, because they keep right on blooming if they are cut with the first flower open, lasting a week or more, by opening up two or three new buds each morning until the entire supply of buds on the spike is used up. And they do this without much loss in the quality of the individual blooms. The thick heavy spike has a big supply of food, enough to develop every bud into a fine flower. Let your spikes do their blooming indoors where you can enjoy them. Besides, the hot sun and the weather are hard on them outdoors. Most of us are too busy to spend much time admiring them out in the garden. Take them to where you spend your time, the office, the kitchen, and shop, also church, hospital, and sick room. Do not confine their uses to special occasions only, but enjoy them while doing your daily tasks as far as possible.

### CARE OF CUT SPIKES

In cutting leave four or five leaves to develop the new bulb, if you care to save it. Change the water once a day, because cool water has a freshening effect. The pores in the end of the spike become clogged, so cut off slantwise a thin slice each day, and keep the water clear. Remove the wilted blooms, and keep out of warm air currents.

If you will place your spikes in cold water in a cool cellar, the wilting of the opened blooms may be retarded. In this way, with the opening of the later buds, spikes may be had with a larger number open at one time, with greater chances of success in the show room. Spikes may also be kept for several days in a refrigerator that does not freeze them.

### SUBSTANCE OF A PETAL

Substance in reference to a Glad petal means its ability to resist the effects of the heat, dry air, air currents, rough handling, and so forth. The petals of some varieties are somewhat thin, as in Mr. W. H. Phipps, for example, while others are very heavy, as in Purple Glory. But the thickness of the petal has little to do with its substance. In these two examples Phipps far surpasses Purple Glory in ability to hold up under adverse conditions. The advantage of a thick petal lies in the fact that the floret is better able to maintain its form. Curling of petal edges on account of the heat and dry air, tendency to wilt easily, and fading, show lack of substance. Varieties differ greatly in petal substance.



## BULB VITALITY

Some growers disbud their stock of Glads which they are growing for the production of bulbs. They claim that the strength taken by the plant to produce the bloom should all go into the making of the best possible bulb. They are probably right. In any case, however, the fertilizing and watering and pampering that growers give their Glads for the production of the finest blooms do result in inferior bulbs. Many florists do not even dig their bulbs after harvesting the blooms for this reason. It seems that a Glad plant that has to rustle for a living puts all its energy into the bulb and the bulblet increase, while the one that has a plentiful supply of all that it needs for growth puts all its energy into the bloom and the seed-pods. There are exceptions, of course, some varieties doing both. The seasons that are too dry to bring the Glads to bloom always result in fine, peppy, high-crowned bulbs.

## WHAT SIZE SHALL I BUY?

This depends somewhat on what you wish to use them for. In general, the value of a bulb, and therefore its price, varies according to its diameter. No. 1 bulbs throw more spikes than No. 2 bulbs, but the quality is about the same. Florists use only No. 1 sizes for forcing in greenhouses. No. 3 and No. 4 sizes put all their energy into a single spike, and so a well grown high crowned medium sized bulb gives a very fine spike of bloom, and is probably the most satisfactory size to buy for the home garden. But from No. 5 and No. 6 bulbs the spikes are definitely inferior in most cases. In fact, in many varieties most growers do not get No. 6's to bloom at all. However, it is the latter two sizes that produce the main crop of bulblets, which fact gives them a definite value. Since for most varieties only a small part of the bulblets will sprout, the value of bulblets is only a fractional part of the value of the bulbs.

## A SHIFT OF EMPHASIS

This old planet of ours has quite a variety of climates, especially with regard to the growing seasons of three to five months of each year. Variations in soils from what is desirable can be corrected to a large extent, because all plants require certain elements that can be supplied to the soil directly. But when it comes to such things as heat, rainfall, winds, humidity, and so forth, nothing has ever been done about it except to talk, as Mark Twain said.

It is a well known fact that, though Glads will stand a lot of rough treatment from the elements, they nevertheless do greatly appreciate moisture and coolness. So much so, in fact, that one would hardly recognize the same variety grown in two different sections of the country. I have never ceased to marvel at a Scarlet Wonder spike with seven open I once saw at a New England show, or at the picture of a Purple Glory taken in Australia that had eight open. These two varieties as grown in central United States will average two to four open at one time.

Flower petals are delicately constructed things. They are living, growing plant tissues, containing no protective surfaces such as plants build up against the elements on leaf, stem and fruit. If the air is hot and dry, moisture is taken from the flower petals faster than the plant can supply it, and the result is bound to be an inferior bloom. If the air is moist and cool, there is little drain on the plant from the air, and it can then spend all its energy on opening up more and better blooms.

Some of these pictures we see of spikes with a dozen florets open are really misrepresentations, if they are not accompanied by an explanation of the conditions under which they were grown. Probably they opened the first half dozen the first week, and the next half dozen the second week.

Under the average mid-summer conditions of the great central area of the United States such spikes are not produced. For most varieties the blooms will wilt in two or three days after opening. They simply are not able to counteract the withering influence of the hot and dry air. So far as the opening up of a lot of blooms is concerned, these Australian varieties are not the super-Glads one may be led to believe they are from looking at their Australian pictures, because when they are grown here they do not behave that way. The same thing is true, probably to a much lesser degree, of varieties from other sections of the world. However, one must not infer that all varieties from the cool and moist countries are behaving that way. We have some very fine commercial Glads that came originally from a kindlier climate, Glads that may not entirely live up to their advance descriptions and yet are very fine things.

We folks of the central United States want pictures and descriptions more nearly true to our own conditions. When we gaze on these grand illustrations, I am afraid our admiration is tinged with the regret that we cannot have them like that. You originators must remember that we use more Glads, ten times over, than all the cool places put together, both through the florists and as a garden flower. We grow thousands of acres of Glads for the cut flower markets alone. Then should there not be a little shift in the things to be emphasized in describing the qualities of the Glads you advertize? A Glad's resistance to the less favorable conditions under which they must be raised and handled here could stand a lot more emphasis.

## WEATHER CYCLES

It is a scientific fact that the weather goes in cycles. The eight-year cycle means that we have about eight years between the middle of one wet series of years and the next wet period, with the same thing true regarding dry periods. Also, every fourth period is more intense than the others. For example, the dry period just following the Civil War, or about 1870, was severe, and the fourth dry period following it, or about 1901, was also severe. The same thing may be said of the next fourth dry period, or 1932 to 1934. The two wet periods that immediately followed each of the two former drouths were very wet. Accordingly, we are therefore due for a muddy time of it in 1935 to 1938, and muddier still in 1942 to 1944. If it is, I hereby promise never to growl about the mud again. It looks like we may look forward to a series of fine Glad years. But please do not call me a weather prophet.

## HOW TO AVOID CROOKED SPIKES

About the best way to get rid of crooked spikes is to discard those varieties that have too much tendency to crook. Glad crooks, like human crooks, are pretty hard to reform. There are plenty left that do go straight. For the protection of society the crook should be either segregated or executed.

We have all noticed that those varieties that crook badly in the summer sun come straight when they bloom along in the cool of September days. The cause is doubtless too much heat in the form of hot winds from the South. A complete wind break on the South and West of the plants will lessen this tendency to a large extent.

## THE BULB'S BEST YEAR

From a planting of bulblets the crop of bulbs at digging time will be mostly No. 5 and No. 6 sizes for nearly all varieties, although certain strong varieties will have quite a few larger sizes. This crop of bulbs, called planting stock, will develop into No. 1's and No. 2's the second season, and will have a crop of bulblets. These second year bulbs are what are called young bulbs. They are high crowned and vigorous. It is called the bulb's best year. Although the bulb will renew itself from year to year thereafter indefinitely, yet the later bulbs are not so peppy. They are more or less flattened out, and hardly ever produce bulblets, while the spikes of blooms are not so good.

## ON THE DIVIDING OF A BULB

I have in mind a couple of friends who are what we might call Glad bugs, but who are not commercial growers. Their enthusiasm is stronger than their pocket-books. I have known them to chip in \$10.00 apiece for a single bulb of a new variety, and then cut the bulb in two, making sure each part contained at least one eye. The operation was entirely successful, each of my friends raising a splendid spike of this new Glad, with a good crop of bulblets. Their only precaution was to smear sulphur on the cut surfaces and then plant immediately.

I have experimented in the cutting of bulbs only in a limited way, but with good success. The tendency with many bulbs is to send up two or three spikes from the one bulb, often more, with a greater demand on the root system than would be the case with just one spike, and at digging time the crowded bulbs are somewhat irregular in shape. Perhaps the same result would be obtained if all the eyes on the bulb were cut out except one, but this looks like a waste of eyes.

## DO GLADS CHANGE COLOR?

This question is often asked. Most decidedly no. The bulblets you find in among the roots of a bulb will develop into bulbs themselves whose blooms remain true in

color to the mother bulb year after year as long as it lives. The color sport is an exception, but these sports are so extremely rare that they would not turn up in one garden in a hundred. The reason this question arises so frequently is the fact that some varieties are much stronger and more prolific than others, and it is these that in time crowd the others out, and your Glads in a few years will be reduced to only one or two kinds.

## DO GLADS CHANGE QUALITIES?

It is a well known fact that Glad varieties differ in their adaptability to different climatic conditions and growing conditions, and in their ability to resist heat, drouth, rough handling, poor soil, and so forth. In fact, some Glads grown under widely different situations are hardly recognizable as the same variety. But aside from these obvious differences that are thus easily explained, glads do have more or less of what might be called unstableness. We have all felt that certain varieties we could name are not what they once were, and this feeling is not entirely due to the superior new varieties, either. This loss in quality is specially noticeable in seedlings after the first year or so. A seedling may appear to be a world beater the first year or two, but after that a disappointment. This is one of the sorrows of the hybridizer. Those seedlings that remain good are scarce. However, it is from this limited class we get our standard varieties. Varieties such as Dr. F. E. Bennett, Mr. W. H. Phipps, Minuet, and a few others, have not perceptibly changed through the years. But on the other hand, we cannot say as much for Le Marechal Foch, for example, and a host of others that could be named, no matter what the conditions are under which they may be grown.

A possible explanation for this deterioration in qualities is the fact that the modern Glad is pretty much of a hybrid. Some hybrids are not even able to breed on. The mule is an example. This gradual loss is not so evident in the colors of Glads as in other qualities, such as length of stem, size of bloom, and ability to reproduce. Some originally fine varieties have degenerated into nothing more than Cannas as far as the spike is concerned.

Those varieties that have been able to resist all these tendencies over a period of years are the so-called standard kinds. They can almost be named on the fingers of the two hands. Is it any wonder the commercial growers of bulbs are chary of the new varieties?

## GLAD BREEDING

In the heart of the flower you will find the pistil, which has three branches at the tip. The other three stems with the anthers on their tips are the stamens. The anthers contain the pollen grains, which are ripe for use along about ten o'clock. I detach the whole stamen, using a small forceps, or my fingers, and brush the anthers against the tips of the pistils on the seed parent. I repeat the same operation the following day, using fresh pollen from the same plant as before. You need not cover the flower, because the wind and insects do not interfere to any extent. It is best not to pollinize more than half the blooms of a spike. I keep careful records of every cross made. It takes about three weeks for the seed to ripen.

I plant the seed in the early spring rather thickly in shallow trenches, and keep moist. It takes them about three weeks to sprout. Keep covered with lath frames, or the sun will burn them off. They should bloom the following season. Before you set your heart too strongly on any certain one, give it a three year trial. So many go bad after the first two seasons. Even then, there is no keener delight than to go out each morning to the seedling bed to see what has bloomed during the night.

Varieties differ greatly in value as parents. Most of the standard strong growing kinds are very apt to transmit good qualities to their offspring. A variety seems to be most potent for this purpose in the first few years after introduction. Never use an old variety for breeding. If you discover a good cross, repeat it on a larger scale, as you are then more likely to get a seedling combining all the good points of both parents. Your selection of parents depends on what you are working for. In general, like will produce like, a yellow on a yellow producing a yellow, for example. Two good keepers will give you a good keeper. And so on. Bad traits of the parents are very apt to show up in the seedlings.

The back yard amateur has as good a chance as the specialist to produce a world beater, because the best parents for this purpose are all in commerce, and a variety not good enough to name and introduce is not good enough to breed with. We need



a large yellow, a real blue, a better pure pink than any we now have, a genuine orange, taller spikes with many open, better keepers, and so on.

### GLAD HISTORY

The Glad is a newcomer among cultivated plants. Although there are a few species native to Southern Europe and Asia Minor, they never attracted any special attention. But when the bright colored and varied species of South Africa were discovered about a hundred years ago, a great impetus was given to Glad improvement. A member of the Iris family, the genus *Gladiolus* contains about one hundred and fifty species, all but fifteen of them native to South Africa. The first specimens were brought from the Cape of Good Hope near the beginning of the 19th century. A few of the more promising species were crossed, and several resulting strains were developed, the most prominent being the "gandevensis" strain. The most famous variety of the latter strain was the old red and yellow *Brenchleyensis*. Many breeders of England, France, and Germany, as well as America, have been constantly on the job since then seeking finer and finer Glads.

There are several distinct modern strains, though all varieties are more or less related. The *Primulinus* strain was the result of crossing on the large-flowered kinds a recently discovered species called *Primulinus*, which is a pure yellow, small, hooded flower. The hybrids of this cross have slender, graceful stems, small blooms, and a pronounced hood. Another modern strain is the blotched Glads developed by Lemoine of France. Pfitzer of Germany has developed a violet colored strain, approaching blue. The Australians have produced a Glad with many open. And America is concentrating on kinds that can stand a dry climate and rough handling, or the so-called commercial varieties.

### A VOTE OF THANKS TO THE CONNOISSEUR

The Glad bug, or fancier, as we call him, is the one who is catered to by the introducer of the newer and higher priced varieties. He buys the expensive and rare things because he is a bug, while the professional grower buys them in order to have a stock worked up for the time when the variety gets into the popular low-priced level. There is quite a risk in either case, because very few of the hundreds of new introductions ever become standard. And yet, how would we ever arrive at a reliable estimate of new varieties if it were not for the services of these fanciers? It is an expensive pastime to be a Glad bug, and we owe him a great debt. He is a useful citizen, may his tribe increase. At least, let us give him a vote of thanks.

### THE A. G. S. VOTE ON FAVORITES

The members of the American *Gladiolus* Society vote each year on the best varieties. When the annual dues are sent to the secretary, on the back of the application blank a space is provided for the names of ten varieties which the member regards as his favorites for the year. Sometime during the summer these votes are counted, and the varieties receiving votes are then ranked according to the number of votes each receives, and the fifty highest are published.

### THE TABLE OF FAVORITES FOR 1933

(The number in parentheses is the ranking for 1932)

- |                           |                            |
|---------------------------|----------------------------|
| 1. Picardy (5)            | 17. Maid of Orleans (new)  |
| 2. Minuet (1)             | 18. Giant Nymph (15)       |
| 3. Marmora (2)            | 19. Mrs. P. W. Sisson (16) |
| 4. Betty Nuthall (4)      | 20. Ave Maria (22)         |
| 5. Mr. W. H. Phipps (3)   | 21. Bagdad (new)           |
| 6. Commander Koehl (14)   | 22. Our Selection (30)     |
| 7. Mother Machree (10)    | 23. Pelegrina (new)        |
| 8. Pfitzer's Triumph (8)  | 24. Coryphee (23)          |
| 9. Dr. F. E. Bennett (6)  | 25. Jonkheer Van Tets (27) |
| 10. Mrs. Leon Douglas (7) | 26. Mildred Louise (new)   |
| 11. Albatros (13)         | 27. Dr. Moody (26)         |
| 12. Golden Dream (9)      | 28. Gloriana (21)          |
| 13. Mammoth White (17)    | 29. Berty Snow (25)        |
| 14. Aflame (12)           | 30. Charles Dickens (37)   |
| 15. Emile Aubrun (11)     | 31. Purple Glory (18)      |
| 16. Red Lory (40)         | 32. Veilchenblau (19)      |

- |                            |                             |
|----------------------------|-----------------------------|
| 33. Queen Mary (31)        | 42. Wasaga (new)            |
| 34. Aida (20)              | 43. Rosemaria Pfitzer (new) |
| 35. Salbach's Orchid (50)  | 44. Sultan (new)            |
| 36. Moorish King (39)      | 45. Yvonne (new)            |
| 37. Mrs. S. A. Errey (new) | 46. Golden Chimes (new)     |
| 38. Lotus (new)            | 47. Bill Sowden (38)        |
| 39. Salbach's Pink (42)    | 48. Dr. Nelson Shook (34)   |
| 40. La Paloma (new)        | 49. Red Phipps (new)        |
| 41. Margaret Fulton (41)   | 50. Paul Pfitzer (36)       |

### THE VALUE OF THESE TABLES

These tables are not for the specialist particularly, but are of the greatest value to the average home gardener, who wants to know what varieties are generally considered the best for average conditions the world over, and which for this reason are the most likely to make good with him. Those who vote represent a wide range of climatic conditions, as well as personal tastes, and a variety to receive a high vote has to be very generally disseminated and tested. There are no snap judgments by so-called experts in these lists.

It will be noticed that some varieties are rising in these tables, while others are on the way out. It has been found from these votes, since the first one in 1929, that once a variety begins falling in the list it seldom or never comes back. This fact is of use to the commercial grower, who wishes to stock up on the coming varieties.

### THE A. G. S. JUDGING SCALES

At exhibitions of cut spikes the judges arrive at their decisions by comparing one entry with another, except in the case of seedlings, or with close decisions to make, in which case the following percentage table should be used. Glads are divided into three types: Exhibition, Decorative, and Small Decorative. In the Exhibition type the emphasis is on size and number open. The Decorative type "must have purity of color, charm, gracefulness, pleasing and harmonious arrangement of florets, and other attributes that accentuate the decorative qualities of the entire spike ensemble." The Small Decorative type is the same as the Decorative type, except that the size of the floret shall be three inches and under.

Individual Florets:	Exhibition	Decorative	Small Decorative
Color .....	15	30	30
Substance .....	5	10	10
Size .....	15	3	3
Form .....	5	5	5
Entire Spike:			
Harmony .....	15	15	15
Arrangement .....	10	10	10
Florescence .....	20	8	8
Length of stem .....	7	5	5
Foliage .....	3	4	4
Vigor .....	0	5	5
Condition .....	5	5	5
Total in each case 100 points.			

### NIGHT AND DAY

One of the greatest discoveries in horticulture in modern times has to do with the behavior of plants under a changing ratio of light and darkness. We have all noticed that the Careless Weed that comes up in the early spring will attain a height of several feet before it sets seed in the early fall, while the same weed coming up in late summer will set seed at the same time even though only two or three inches tall. This is found to be caused by the fact that as fall advances the length

of the daylight becomes less, and the night longer, and when this ratio reaches a certain value for the plant, a change takes place in the character of its growth, so that instead of growing leaves and stems it henceforth puts all its energy in making provision for its propagation and survival, such as flowers and seed and offshoots. Florists take advantage of this fact, and by the proper use of dark cloth shading get chrysanthemums to bloom much earlier than usual. The opposite effect has been obtained by use of artificial light to extend the daylight, so that plants have been made to grow to twice and three times their normal height before blooming.

This principle accounts for the fact that the Glad bulb does not make any special growth, nor set bulblets very well, until well along in September and early October. During these last weeks just before frost the bulb and bulblets make very rapid growth. Therefore, it is best not to dig your bulbs until frost, provided the plants stay green.

## BULBLETS AND HOW TO SPROUT THEM

These little offshoots in among the roots of a bulb at digging time will with proper care develop into bulbs themselves, that will bloom true to the mother bulb in every particular. They are the means by which a variety is propagated, the increase being very rapid in all standard varieties.

In their wild state in their native haunts of South Africa, when the plant dies down following the blooming period, the bulblets must remain in the ground through the dormant period of several months. The bulblet kernel is small and tender, and the ground is dry, and the hard husk, or shell, is therefore a protection. When the growing season again arrives, not all of these bulblets will sprout, many of them remaining over for succeeding seasons. This again is a provision of Nature for survival in case of accident to the growth above ground. These are reasons why bulblets are hard to germinate. We must find methods of overcoming these tendencies.

The usual practice is to soak the bulblets for several days just before planting, the longer the better. The sprout will be better still if the bulblets have not been allowed to get too dry during storage. A good storage practice is to keep them in tight paper bags in a cool cellar. For expensive varieties it will be very profitable to break the husk just before planting, using the point of a pen knife. Be careful not to injure the tender fleshy part, and to plant at once. The husk need not be removed, the object being to allow the moisture to reach the kernel to start the growth.

Bulblets should not be planted over three or four inches deep, and should be planted early in the spring to be assured of moisture at sprouting time. It is best to plant rather thickly in the row, at least fifty or more to the foot.

## FORCING THE INCREASE

Many ways have been tried to get a quick increase of stock, especially of a new and rare variety or of a seedling. I have tried planting both Glad seed and bulblets indoors, the seed as soon as gathered in September, and the bulblets along in January after their rest period. I have dug these bulbs from their boxes in April, and planted again outdoors in June or July. But in neither case did the results compare very favorably with early spring plantings of the same. The saving of an extra season's growth cannot be done successfully, here in Iowa at least. Bulbs seem to need a long rest period. After a good long rest both bulbs and bulblets seem to have extra pep for the maximum growth. For a long season's growth plant in April and dig in November, if possible, provided the frost will let you. The last weeks just before frosts arrive are when the bulblets set on most rapidly. If you dig a No. 1 bulb that grew from a No. 6 or a bulblet planted early and dug late, it will have the maximum crop of bulblets.

Florists are able to bloom chrysanthemums several weeks earlier than usual by covering with light-proof cloth. I have more than doubled my bulblet increase by placing such a covering on at about 5 o'clock in the evening, and taking it off at about 8 o'clock next morning each day for about a month beginning about September 1st.

## WHEN TO PLANT

Glad plants are somewhat resistant to frost, several degrees below freezing being required to kill them. Therefore, you may plant as early in the spring as the ground



may properly be worked, because late spring frosts will do no damage. If you plant large bulbs early, they will bloom before the hot days of August arrive, and if you plant them the latter part of June, they will bloom in the cool days of September. For a succession of blooms you may plant your bulbs at intervals of about ten days. Another way to have a continuous blooming season is to plant different sizes all at the same time, because the blooming period of a bulb varies inversely according to its size, the larger bulbs first and the smaller ones later. For the flower markets growers plant early varieties very early, and late varieties late, in order to avoid as much as possible the low prices of the mid-season glut.

In order to keep your bulbs young, and to have a continuous supply of all the different sizes for a long blooming season, I would advise saving your bulblets at digging time. Then when you plant your bulbs next spring, no special effort is required to scatter these bulblets in the trench along with the bulbs. Many of them will grow, and you will have a crop of assorted sizes when you dig, a good share of them vigorous high-crowned young bulbs. You will have better luck growing Glads if you will keep your stock young and vigorous.

## WHERE TO PLANT

If you can raise fairly decent vegetables on a piece of ground, then you can raise Glads there, and this applies to the far corners of the earth as well as here in Iowa. If your growing season is short, early varieties are best. Glads will do well in most any kind of soil, provided it is well drained.

I think too much of Glads to see you planting them in borders, against buildings or fences, or in among other plants and bushes. They seem to have a hurt look in such places. You know your sweet corn would look spindly, and your tomatoes would be puny, if you tried to raise them there. Plant your Glads out in your vegetable garden, or in a place of similar location, where they can have elbow room and the free open air all around them. Glads enjoy the sunshine the whole day.

## HOW TO PLANT

Much may be said in favor of planting Glads to a depth of five or six inches. The roots thus stand a better chance of being kept moist and cool in the heat of the summer, and the plants are less likely to fall over at blooming time in the wind and rain. At blooming time most plants send out an expansive network of fine roots as a special set of feeders for the flowers. These roots reach towards the upper levels of the soil. Scrape the surface of the ground in a cornfield at tasseling time, and you will find myriads of them. If the bulb is planted at the six inch depth, these roots will have more room in which to expand, and a larger feeding area. The result will be a finer flower.

It is the original set of roots that grow the foliage, which in turn grows the new bulb. So those who grow for the bulb and bulblet increase do not concern themselves about the flower, and hence need not plant at the greater depths. They also have another good reason for the more shallow depth in the fact that it is much more economical. The depth to use for commercial plantings depends on the nature of the soil, a loose sandy soil requiring more depth than a clay loam, for example. My field plantings are about three inches deep. Some growers claim a better bulblet increase from the more shallow plantings.

For the best flowers, do not plant closer than three or four inches apart in the row. If you plant single file, you can cultivate close up to the plants on both sides of the row. The distance between rows depends on your means of cultivating, and also on the amount of walking you are likely to do between the rows along about blooming time. Large bulbs should be set upright, but the other sizes need not be. For commercial growers an even distribution of planting stock in the row, and not too thick, will result in a larger percentage of top size bulbs.

## CULTIVATING

One reason we cultivate is in order to destroy weeds. The best time to get the weeds is when they are small, because they quickly die when exposed to the sun, or are easily covered up, and are much less likely to take root again than they are when they become larger. Large weeds rob the soil of moisture and plant food, so do not let weeds get large in order to pull them for the exercise. Another reason we cultivate is to break the soil crust. The soil must have air for the important soil bacteria

to thrive, and it must be loose and friable to prevent a too rapid escape of the soil moisture. The importance of the latter has been amply demonstrated in the severe drouths of the last few years. But do not cultivate just to be cultivating, unless for the two reasons named, as it will do no good, and may do harm. At blooming time deep cultivation may do harm by destroying the fine network of feeder roots for the flowers. Cultivation at this time should be merely a scratching or raking of the surface crust.

## ECONOMICAL WEEDING

There is a tool on the market called a garden mulcher. It is shaped like a lawn mower, having a set of revolving discs, and a sharp blade that passes just beneath the surface of the soil. Weeds come up before the Glads do, so I pass this mulcher over the top of the row just before the Glad shoots break through, thus destroying the first growth of weeds. After the Glads are up a few inches I get most of the next growth of weeds, especially when the Glads are planted single file, by passing this mulcher on each side of the row and as closely as possible to the plants. The weeds that remain in the row may be torn out, or flattened out, by using a special rake with long flexible teeth, and the rows then ridged up with cultivator shovels. The teeth of this rake do very little harm to the Glad shoots, but certainly do plenty of damage to the small weeds. These two tools save an immense amount of hand labor.

## FERTILIZERS FOR GLADS

Glads are good feeders, responding readily to intensive culture. A rich garden soil that will send mammoth vegetables to the fairs will raise fine spikes of Glads. Nothing is finer for the soil than the supplying of plenty of humus. This is done by plowing under in the fall either stable manure or a green crop, such as rye, clover, or soy beans. Probably the best of all fertilizers for Glads is stable manure, because it not only contains in proper portions the three elements absolutely necessary for plant growth, namely, phosphorus, nitrogen, and potassium, but it also supplies the bulky material to be incorporated into the soil to make it loose and friable, so as to hold moisture readily and to favor the growth of the important soil bacteria.

Your County Agent will be able to determine whether or not your own particular soil lacks any of these three chemicals, phosphorus, nitrogen, and potassium. They can be supplied in a quickly available form. The presence or absence of lime makes no particular difference with Glads. Nitrogen in various forms, such as ammonium sulphate, aids the growth of stem and leaves. Phosphorus, or phosphates, boosts the buds and blooms, while potassium in the usual form of wood ashes, helps the bulb and increase. Any good commercial potato fertilizer will have the proper proportions of these ingredients for the average soil that needs tuning up for Glads. The various chemicals named above must be applied with extreme caution. Overdoses may be fatal to the plants. Always follow the directions given.

## HOW TO GROW SHOW FLOWERS

Select No. 1 size young bulbs, that are high crowned, vigorous, clean, and peppy. Be sure no disease is present. Remove the husk, and cut out all the eyes except the one nearest the center, applying a little sulphur to the cut surfaces. If these eyes are not cut out, No. 3 size young bulbs will be a better size to plant. Determine the blooming dates of each variety, and then plant at three ten-day intervals, one at the proper time, one before, and one after. Even then you may miss the great day of the show, unless you plant several dozen at each planting. Plow or spade under the fall before plenty of good stable manure, or commercial sheep manure. Plant at least five inches apart and six inches deep. Keep thoroughly moist from planting to blooming, but water heavily once or twice a week rather than a little at more frequent intervals. Keep the soil crust broken and the soil loose, but no deep cultivation at budding time. Stake the heavy spikes. You may have more blooms open if you cut a day or so ahead of the show and place in a cool cellar. Long spikes, with correct facing and spacing, and plenty open, and fresh blooms, are all points that win the favor of the judges.

## DIGGING THE BULBS

If your Glad plants show signs of turning brown in September, they should be dug at once. Dormant bulbs should not be allowed to lie in the wet ground, because if they should start sprouts again it would be a real injury to the bulb. Bulblet stock often ripens off in late summer, and should be dug at once for the same reason. As long as the leaves are green the bulb is growing and bulblets are setting on. This bulb and bulblet growth is at its maximum just before frost. A frost that kills the stems will not harm the bulb, but the bulb is easily killed if the frost reaches that far into the ground. We wash all our bulbs, using barrel churns.

For my commercial plantings I use a U-shaped knife blade attachment for my tractors, that passes just beneath the row of bulbs, loosening the soil and bulbs, but leaving the stems upright for easy handling. The bulblets cling readily when the plant is pulled out of this loose soil. The stems are then cut off, and the bulbs sealed in grain bags and taken to the bulbhouse washing platform. If the bulblets are high-priced, considerable scratching is done in this loose soil, much in the manner of an industrious hen.

## CURING AND STORING

Do not cure bulbs in the direct sunlight. A dry place with plenty of air circulation is all that is needed. Slow curing is what they are used to in their natural state. The storeroom must be kept dry and frost-proof. I place my bulbs in shallow trays with screen wire bottoms directly in the storeroom to cure as soon as they are washed. For curing small quantities paper bags with the tops left open are fine. About a month after digging the old bulb may very easily be removed. This is the right time for cleaning bulbs. Separate the bulblets and place them in tight paper bags where it is not too dry, but do not let them mold. Inspect your bulbs frequently during the winter to be sure that no mold appears, as it will kill them. A sure cure for mold is the direct rays of the sun for a few hours.

## PRECAUTIONS

The twin nightmares of the conscientious Glad grower are diseases and rogues. I take all the precautions I know of, and spare no expense, in keeping my stock clean of these.

There will be no disease unless there is a specific germ, or spore, present in the plant. If your stock of bulbs is germ-free, you will have no disease in your bulbs. This talk of soil conditions, or storage conditions, as causing disease is all nonsense. The way to free your stock of disease is to destroy utterly all infected bulbs, and treat the remainder of your bulbs with corrosive sublimate, or similar disinfectant, and plant in new ground, and then wash all containers, trays, and so forth. Every new bulb or bulblet that comes to my place is placed under a strong hand-glass, to find every speck of possible disease, and each speck is cut out if the bulb is valuable. As a further precaution, every bulb that is planted every year on my place is disinfected.

When a Glad plant is found dying of disease, it is natural to feel sorry for it. But when a rogue appears, especially in the high priced beds, the natural tendency is to cuss, and if I'm alone I do it most heartily. My customers would feel the same way about it. Therefore, I make a special effort to get rid of rogues. Whenever I can do so, for new varieties I plant stock that will bloom the first year, so as to be able to identify it at once. My field crop is brought to the bulbhouse in sealed grain bags. Only one variety is ever allowed in the room where washing or cleaning operations are going on. And so forth.

I regard it as extremely important to keep stock offered for sale perfectly clean, because perhaps more Glad enthusiasts than we realize have lost their keenness for this flower on account of trouble with disease. Another source of disappointment, causing perhaps even greater loss of zest for Glads among home gardeners, is the use of old, flat, worn-out bulbs. Clean, young, true-to-name bulbs are the only kind for a grower to send out, cost what it may.

## DISEASES

There are four or five diseases affecting Glads, including the common scab disease and several kinds of rots. Scab does not work on the bulbs in storage, while the rots do. The latter will reduce the bulb to a mummy by spring.

Scab causes circular, shallow, shiny brown depressions on the surface of the bulb, which are easily removed and come clean. The bacteria of this disease spread during the growth of the plant by swimming around while the ground is wet after rains. Badly affected plants die in the field with what is called neck rot. These bacteria, or spores, live in the soil for two or three years, but do not spread in storage. Since the lesions are shallow, this disease is easily treated. Use corrosive sublimate, one ounce to about five gallons of water. Dissolve in a little hot water first. Place in bags in wooden containers, and leave for several hours. Use for only one batch, unless you bring the solution up to strength by adding a little more corrosive sublimate. This chemical readily combines with organic matter, and quickly loses strength. It corrodes metals, and is deadly poisonous. But it is effective for the treatment of scab.

The only completely effective treatment for the various rots is to destroy all bulbs that have lesions of disease, no matter how small these may be, because the fungus threads extend from the lesion into the heart of the bulb. Then treat the remainder of the bulbs as recommended for scab.

## THRIPS

Luckily these bugs have kept away from my farm through another season. Call them thrips, with an "s" on the end of the word, for both one thrips and many thrips. There is no such word as "thrip".

It seems that the injury to the plant is first noticeable as grayish white spots, or flecks, on the foliage, often covering most of the surface. On severely injured plants the leaf tissues dry out and turn brown, and the blooms become discolored and shriveled up.

The thrips is an insect about one-sixteenth of an inch long, rather narrow bodied, and very active in the adult stage, most of them being able to fly. They are black in color, with a lighter band across the middle of their backs. They are too small to see well without the aid of a hand-glass. Except on cloudy days, they are found only inside the sheath, where they lay their eggs. They feed by rasping the tender unexposed leaf surface and sucking up the juices. They multiply very rapidly.

In those localities where the ground freezes to a depth of several inches they do not live over the winter out of doors. They live over the winter on the bulbs in storage, and even multiply there if the temperature is moderate. If the temperature is kept at forty degrees, or lower, they are destroyed, according to some reports. If the bulbs are placed in tight containers, such as paper bags, thrips may also be destroyed completely by the use of naphthalene flakes, which are cheap and obtainable at any drug store. They form a gas that kills both bugs and their eggs. Use at the rate of about one ounce to a hundred large bulbs, and shake the bag so that the flakes are scattered throughout the bulbs. They may be left in the bags for several weeks without danger to the bulbs, but be sure that the containers are not kept tight too long, so that the bulbs sweat and mold. It is best not to do this too soon after being dug, or when the roots are beginning to swell in the spring, as the tender bulb tissue might be damaged. At planting time, as an additional precaution, the same corrosive sublimate treatment as recommended for disease is effective. Destroy all trash and refuse from cleaning, and be sure that treated bulbs do not again come in contact with such infested sources before planting. Since thrips fly considerable distances, get your neighbors to use these precautions also.

The thrips is a dry weather insect. Cool, rainy weather holds them in check. Frequent sprinklings of cool water is the best control method in the growing season. But this must be started in time, because thrips live inside the sheath of the plant leaf, and may be present before you know it. If they have a good start, it is very hard to control them by any methods so far known. A contact spray is not effective. Some growers have had some success by spraying with a solution of brown sugar and



paris green. The bugs eat the sweet poison. The formula for this is two tablespoons of paris green, two pounds of brown sugar, and three gallons of water.

### THE SEASON'S BEST 25

Albatros, Betty Nuthall, Chas. Dickens, Commander Koehl, Dream of Beauty, Dr. F. E. Bennett, Geraldine Farrar, Golden Dream, Jane Addams, Mammoth White, Marmora, Marocco, Minuet, Mother Machree, Mrs. F. C. Peters, Mrs. P. W. Sisson, Mr. W. H. Phipps, Paul Pfitzer, Pelegrina, Picardy, Red Lory, Red Phipps, Ruffled Gold, Salbach's Orchid, and Veilchenblau. (Not including my own originations).

### QUALITIES OF THE IDEAL

Color is the first consideration. It is in a category by itself. All these qualities of plant and flower exist for the sole purpose of furnishing the proper setting for the color beauty. They are the means to an end, which is the presenting of the color beauty to the best advantage.

The three big things a modern Glad must have are color beauty, many open, and lasting ability. All other qualities are centered around these three essential points. Very few Glads measure up to all of the following ideals.

- (1) Prolific and easy growing.
- (2) Healthy, heavy foliage.
- (3) Responds to intensive culture.
- (4) Not affected seriously by conditions of drouth.
- (5) Will not wilt nor burn in the summer heat.
- (6) Stems do not crook.
- (7) Tall stretchy spike reaching up out of well bunched foliage.
- (8) Florets well opened and of fine form.
- (9) Stiff, sturdy and wiry, but graceful, stem.
- (10) Florets regularly faced and spaced on the spike.
- (11) Bulb does not divide into more than one or two spikes.
- (12) Five to eight florets open, and as many more showing color.
- (13) Plenty of size and correct proportions in petal, flower, and spike.
- (14) At least twenty buds to the spike.
- (15) Blooms out when cut clear to the tip without loss in size and color.
- (16) Plenty of substance to withstand the necessary handling.
- (17) Does not fade nor streak nor fleck.
- (18) The wilted blooms do not detract.
- (19) Colors uniform, vivid and clear.
- (20) Colors bright under artificial light.
- (21) Possesses that indefinable something called charm.

---

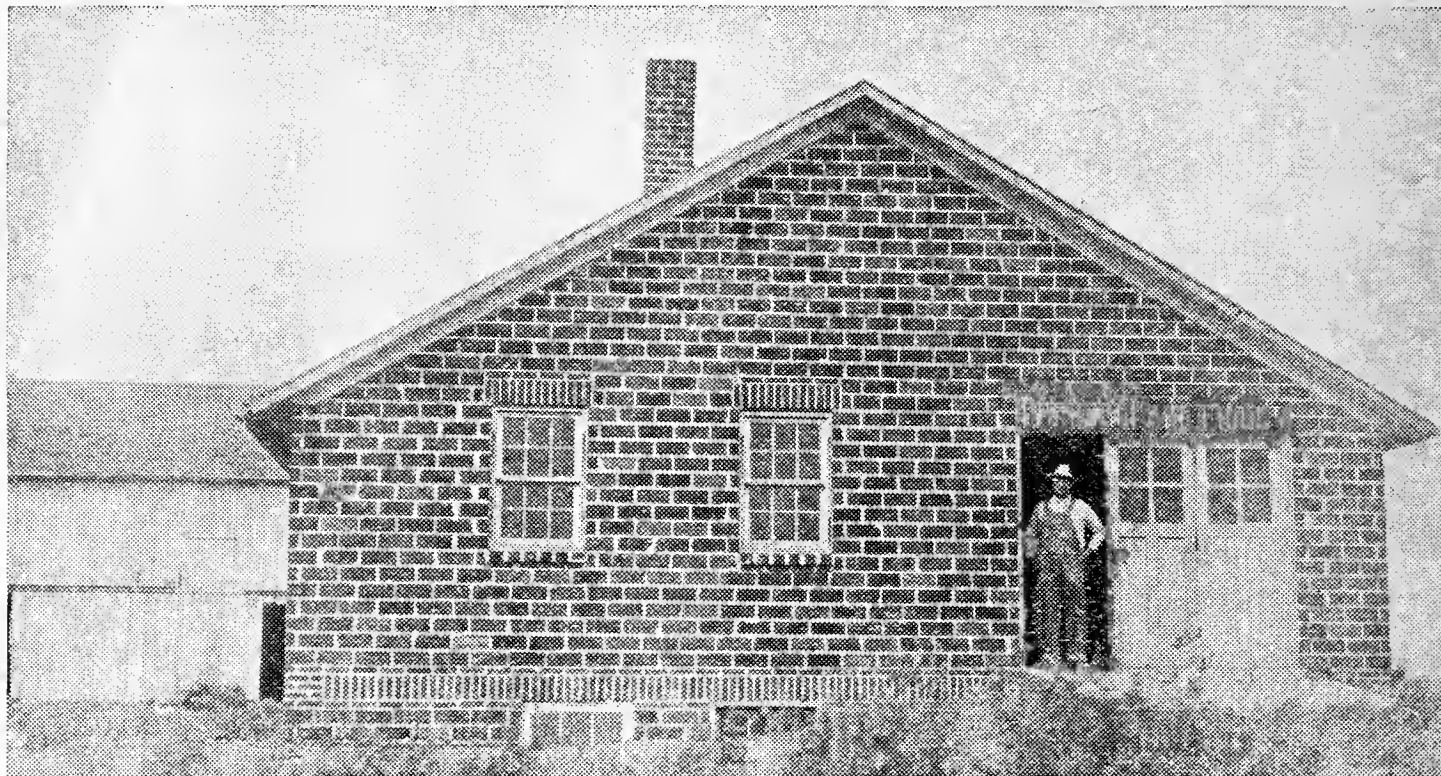
"I am enclosing three small orders, two of them trial orders. I received my trial order on your stock last year, and was more than pleased. They could not be beat for bloom or quality. I had visitors look at your Glads in my garden, and they never saw anything like them. I think they were the best for bloom and height, and were the talk of the town."

Dec. 20, 1934

C. E. Maxwell, Mass.

(I have hundreds of similar letters on file. Iowa bulbs do make good.)

## WINTER QUARTERS



Modern bulbhouse. Thirty by eighty feet. 37,600 cu. ft. of storage. Cement floor, celotex lined, frost-proof basement. Washing platform, cleaning and packing rooms, office, etc. Room for over 3,000 bushels of bulbs in screen bottom trays, arranged for air circulation both below and above each and every tray.





